

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (canceled)

2. (currently amended) A method for the handling of a recorded digital audio-video data stream and associated interactive linear application in a digital audio-video playback apparatus during trick play operation, comprising:

commencing (i) linear real-time playback of the data stream and ~~commencing~~ (ii) running of the linear application from a starting point thereof with the digital audio-video playback apparatus;

mapping, in response to an entering a non real-time playback phase with the digital audio-video playback apparatus, mapping select frames from the recorded data stream using according to a mapping scheme configured to create an interactive trick play stream for use during the non real-time playback phase corresponding to the trick play operation; and

mapping events from for the linear application into the interactive trick play stream using said mapping scheme, wherein if the event occurs responsive to an event occurring between a first and second selected frame in the recorded data stream during linear real-time playback, the event is mapped so as to occur between the mapped first and second frame frames corresponding to successive frames in the interactive trick play stream during the non real-time playback phase, the method further including pausing and unpausing the linear application prior to the event during the non real-time playback phase, and executing the event of the linear application after the linear application has been unpaused.

3. (previously presented) The method according to claim 2, wherein the event is mapped using the following mapping scheme

$$t(E_x') = t(I_0) + (t(E_x) - t(I_0))/n$$

where n is a fast forward factor, $t(I_0)$ is the time trick play is started and E_x is the event.

4. (currently amended) The method according to claim 2, wherein any event scheduled to occur in a group-of-pictures is fed to the linear application together with a mapped I-frame during the non real-time ~~feedback~~ playback.

5. (previously presented) The method according to claim 2, wherein the event of the linear application is executed using no user input.

6. (currently amended) ~~The method according to claim 2, including~~ A method for handling a recorded digital audio-video data stream and associated interactive linear application in a digital audio-video playback apparatus during trick play operation, comprising:

_____ commencing (i) linear real-time playback of the data stream and (ii) running of the linear application from a starting point thereof with the digital audio-video playback apparatus;

_____ mapping, in response to entering a non real-time playback phase with the digital audio-video playback apparatus, select frames from the recorded data stream according to a mapping scheme configured to create an interactive trick play stream for use during the non real-time playback phase corresponding to the trick play operation; and

mapping events for the linear application into the interactive trick play stream using said mapping scheme, wherein during trick play operation the method further includes:

determining when an event for the linear application will occur;
pausing the linear application prior to the event;
unpausing the linear application prior to the event; and
executing the event of the linear application after the linear application has been unpaused.

7. (original) The method according to claim 6, wherein the linear application is paused and unpaused using application control codes.

8. (canceled)

9. (canceled)

10. (currently amended) An apparatus for the handling of a recorded data stream and associated linear application during trick play operation, comprising:

means for commencing (i) linear real-time playback of the data stream and ~~commencing~~ (ii) running of the linear application from a starting point thereof;

means, responsive to entering a non real-time playback phase, for mapping select frames from the recorded data stream ~~using~~ according to a mapping scheme configured to create an interactive trick play stream for use during the non real-time playback phase corresponding to the trick play operation; and

means for mapping events ~~from~~ for the linear application into the interactive trick play stream using said mapping scheme, wherein ~~if the event occurs~~ responsive to an event occurring between a first and second selected frame in the recorded data stream during linear real-time playback, the event is mapped so as to occur between the mapped first and second ~~frame~~ frames corresponding to successive frames in the interactive trick play stream during the non real-time playback phase, the apparatus further including:

means for pausing and unpausing the linear application prior to the event during the non real-time playback phase, and

means for executing the event of the linear application after the linear application has been unpaused.

11. (previously presented) The apparatus according to claim 10, wherein the event is mapped using the following mapping scheme

$$t(E_x') = t(I_0) + (t(E_x) - t(I_0))/n$$

where n is a fast forward factor, $t(I_0)$ is the time trick play is started and E_x is the event.

12. (currently amended) The apparatus according to claim 10, wherein any event scheduled to occur in a group-of-pictures is fed to the linear application together with a mapped I-frame during the non real-time ~~feedback~~ playback.

13. (previously presented) The apparatus according to claim 10, wherein the event of the linear application is executed using no user input.

14. (currently amended) ~~The apparatus according to claim 10~~ An apparatus for handling a recorded data stream and associated linear application during trick play operation, comprising:

means for commencing (i) linear real-time playback of the data stream and (ii) running of the linear application from a starting point thereof;

means, responsive to entering a non real-time playback phase, for mapping select frames from the recorded data stream according to a mapping scheme configured to create an interactive trick play stream for use during the non real-time playback phase corresponding to the trick play operation; and

means for mapping events for the linear application into the interactive trick play stream using said mapping scheme, further comprising:

means for determining on entering a non linear playback phase when an event for the linear application will occur;

means for pausing the linear application prior to the event;

means for unpausing the linear application prior to the event; and

means for executing the event of the linear application after the linear application has been unpaused.

15. (original) The apparatus according to claim 14, wherein the linear application is paused and unpaused using application control codes.

16. (canceled)

17. (currently amended) A method for the handling of a recorded digital audio-video data stream and associated interactive linear application in a digital audio-video playback apparatus during trick play operation, comprising:

commencing (i) linear real-time playback of the data stream and ~~commencing~~ (ii) running of the linear application from a starting point thereof with the digital audio-video playback apparatus;

mapping, in response to an entering a non real-time playback phase with the digital audio-video playback apparatus, mapping select frames from the recorded data stream using according to a mapping scheme configured to create an interactive trick play stream for use during the non real-time playback phase corresponding to the trick play operation;

mapping events for the linear application into the interactive trick play stream using said mapping scheme, wherein responsive to an event occurring between a first and second selected frame in the recorded data stream during linear real-time playback, the event is mapped so as to occur between the mapped first and second frames corresponding to successive frames in the interactive trick play stream during the non real-time playback phase; and

pausing and unpausing the linear application prior to the event during the non real-time playback phase using application control codes, and executing the event of the linear application after the linear application has been unpaused.

18. (currently amended) An apparatus comprising:

a playback system ~~that is~~ configured to commence (i) linear real-time playback of a recorded data stream and (ii) running of an associated linear application from a starting point thereof; and

a mapper ~~that is~~ configured to map, in response to the playback system entering a non real-time playback phase corresponding to a trick play operation, select frames from the recorded data stream ~~using~~ according to a mapping scheme to create an interactive trick play stream for use during the non real-time playback phase, ;
~~wherein the mapper is~~ further configured to map events ~~from~~ for the linear application into the interactive trick play stream using the mapping scheme, ~~such that, if the event occurs~~ wherein responsive to an event occurring between a first and second frame in the recorded data stream during linear real-time playback, the event is mapped so as to occur between the mapped first and second frame successive frames in the interactive trick play stream during the non real-time playback phase, wherein responsive to entering the non real-time playback phase, the playback system is further configured to (a) determine when an event for the linear application will occur, (b) pause the linear application prior to the event, (c) unpause the linear application prior to the event, and (d) execute the event of the linear application after the linear application has been unpaused.

19. (previously presented) The apparatus of claim 18, wherein the event is mapped using a mapping scheme that includes determining

$$t(E_x') = t(l_0) + (t(E_x) - t(l_0))/n, \text{ where:}$$

n is a fast forward factor, $t(l_0)$ is the time trick play is started and E_x is the event.

20. (currently amended) The apparatus of claim 18, wherein any event scheduled to occur in a group-of-pictures is fed to the linear application together with a mapped I-frame during the non real-time ~~feedback~~ playback.

21. (previously presented) The apparatus according to claim 18, wherein the event of the linear application is executed using no user input.

22. (canceled)